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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
07/910,133	07/14/93	HEIKKILA	H 85940/11

EXAMINER: NAFF, D

ART UNIT: 1808 | PAPER NUMBER: 18M2/0124

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DATE MAILED: 01/24/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 9/18/95 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1 + 3 – 18 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☒ Claims ~~2~~ 2 have been cancelled. 4 9 5
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1 + 3 – 18 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

The amendment of 9/18/95 has been entered.

Claims in the case are 1 and 3-18.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as the specification, as originally filed, does not provide support for the invention as now claimed.

The specification fails to contain support for partial hydrolysis as in claim 17 and for complete hydrolysis as in claim 18. Applicants refer to page 6 of the specification as disclosing a two step hydrolysis procedure where a first step produces incomplete hydrolysis and a second step results in complete hydrolysis. However, these two steps appear to be intended to be used together as disclosed on page 6. There is no disclosure on this page of omitting the second step to result in partial hydrolysis. Additionally, there is no disclosure on this page that the second step results in complete hydrolysis. Even after the second step, there could be partial hydrolysis.

Claims 17 and 18 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claims 11, 14, 17 and 18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly

point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11 and 14 are still considered indefinite for reasons set forth in the previous office action of 3/14/95.

Applicants point out that in claim 11, hydrolysis is by two different techniques. However, by reciting "and" the claim requires both techniques in combination and dependent claim 14 cannot broaden claim 11 by requiring only one. It is suggested that "and" in line 3 of claim 11 be changed to -- or --.

Claims 17 and 18 are unclear as to the meaning and scope of "partially hydrolyzed" and "completely hydrolyzed". These terms have not been defined in the specification and their meaning can be relative and subjective.

Claims 1 and 3-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Heikkila et al('026)(equivalent of WO 90/08193).

Applicants urge that in Heikkila et al ethanol is an undesired by-product not produced in a significant amount. However, Heikkila et al disclose removing ethanol by distillation(col 5, lines 18-19) and the ethanol could be a useful product. While the ethanol may be produced in a relatively small amount, a significant amount could be produced if fermentation on a sufficiently large scale is carried out. For example, in Table II in col 7, about .0085% ethanol can be

produced. For a batch of 1000 liters, about 8.5 liters of ethanol would be produced. Even a small amount of ethanol can be significant when only a small amount is needed. The present claims do not require producing a certain amount of ethanol and the amount produced could be that produced in the process of the reference.

Applicants further urge that in the invention, the starting material contains a large amount of hexoses. However, the starting material of Heikkila et al contains hexoses(col 4, line 30). While the amount of hexoses may be small, the present claims do not require a larger amount and the claims encompass the same amount.

Claims 1 and 3-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Heikkila et al(new rejection).

When carrying out the process of Heikkila et al, it would have been obvious to increase the production of ethanol when more ethanol is desired by providing the hydrolyzed starting material with more glucose. This could have obviously been done by adding glucose to the hydrolyzed starting material or hydrolyzing the starting material with enzymes that produce more glucose. It is well known when fermenting with yeast to produce ethanol that the amount of ethanol can be increased by increasing the amount of sugar substrate that is converted to ethanol by the yeast. For example, it is well known in alcoholic beverage production to add

sugar to the medium being fermented such as wort or mash to obtain a higher alcohol content. In the process of Heikkila et al, it is the hexose that is converted to ethanol and increasing the amount of hexose would have been expected to increase the amount of ethanol produced.

Claims 1 and 3-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 5,081,026(Heikkila et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because of reasons set forth in the 103 rejection above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is (703) 308-0520. The examiner can normally be reached on Monday-Thursday and every other Friday from about 8:30 AM to about 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, a message can be left on voice mail. The fax phone number is (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

DMN
January 19, 1996

DAVID M. NAFF
PRIMARY EXAMINER
ART UNIT 182